

mills will test the percentage levels that their fabrics shrink after laundering, and will include those shrinkage levels when selling fabric to customers. In embodiments of the present invention, when pairing the moisture wicking (i.e., hydrophobic properties) fabric and the moisture absorbing (i.e., hydrophilic) fabric together, the shrinkage levels, both “east/west” and “north/south”, are determined to be compatible so that when the two fabrics are washed together in the same garment, there is no warping around the seam or other point of attachment. Preferably, the hydrophobic fabric and the hydrophilic fabric paired together will have the same estimated shrinkage percentage. If there is more than a 1 to 2% difference in shrinkage, the one or more of the fabrics should be preshrunk before joining the two fabrics together. In addition, a garment wash test is typically performed on the finished garment at a testing lab to confirm compatibility.

Matching the Knap

[0035] As used herein, the term “matching the knap” refers to the process of ensuring that the fibers in both the hydrophobic fabric and the hydrophilic fabric are positioned in the same direction. If the “knap” is not matched between the two fabrics used in one garment, potential problems may occur. In particular, the garment runs the risk of warping after laundering, if the fabrics used have any elastic properties (i.e., where spandex, LYCRA®, elastane and the like have been incorporated in one or more of the fabrics) the level of elasticity may vary depending upon the direction of the fibers and the feel of the garment may be rough to the touch.

[0036] FIG. 5A depicts two fabrics paired together where the knap is not matched. In FIG. 5A, the horizontal lines 50 and vertical lines 52 in each square represent the direction that the fibers in each fabric are facing. The white space 54 between these two squares represents the seam that joins the two fabrics. Fibers must be positioned in the same direction, as shown in FIG. 5B, to provide for a near seamless feel. If one were to move their hand from left to right across a garment having the orientation shown in FIG. 5A, a rough patch would be detected when moving across the first square (with vertical lines 52), whereas it would be far smoother when moving across the second square (with horizontal lines 50) as they would be moving their hand in same direction that the fibers are facing in the garment. The fiber alignment as shown in FIG. 5A would also create a problem if the fabric had elastic properties, even if the fabric on either side of the seam 54 were identical.

[0037] FIG. 5B illustrates two fabrics paired together where the knap is matched. As shown in FIG. 5B, the fibers 56 are all facing one direction, regardless of seam 58 placement. The entire garment would be smooth to the touch when moving one's hand in the same direction as the fibers 56.

Care Instructions

[0038] Recommended care instructions may vary based on type of fabric. In accordance with various embodiments of the present invention, the recommended care instructions for both the moisture wicking fabric and the moisture absorbing fabric are examined when pairing the fabrics together in one garment to ensure that the recommended care instructions for both fabrics will effectively clean the entire garment without affecting its wearability. For example, if one fabric's

care instructions recommends “Machine Wash Cold, Tumble Dry Low” and the other recommends “Machine Wash Cold, Line Dry Only”, the garment runs the risk of becoming warped when laundered. Further, each garment can only have one set of care instructions, the instructions must be consistent between the two fabrics.

Fabric Weight and Thickness

[0039] The moisture wicking and moisture absorbing fabrics paired together in certain embodiments of the present invention are of comparable weight and thickness. If weight and thickness are not considered, certain sections of the garment may outweigh others, thereby adversely affecting the overall fit of the garment or pulling the garment in a manner not conducive to athletic performance. By way of example, if the hydrophilic fabric used in a garment had a thickness of 0.25 inches and the hydrophobic fabric a thickness of 0.625 inches, the hydrophilic fabric would likely retain more moisture (and with that moisture, more weight) than the hydrophobic fabric could adequately handle. The result would be a garment where the added weight of the hydrophilic fabric would pull the hydrophobic fabric and distort the fit of the garment. In preferred embodiments of the present invention, the moisture wicking and moisture absorbing fabrics have a difference in thickness of less than 0.25 inches.

Color Blocking

[0040] Certain fabrics of particular colors cannot be paired with other fabrics of different colors in the same garment (a manufacturing term known as “color blocking”) because the dye used in some fabrics can run onto the dye of the other fabric. In preferred embodiments of the present invention, the color selected for use in one fabric will not run onto any other fabric on the garment. By way of example, if a 100% polyester fabric in red is paired in the same garment with a 100% polyester fabric in white, there is a strong likelihood that when the garment is washed, the white section of the garment will absorb some of the red dye and turn a shade of pink. Such a selection will not be made in embodiments of the present invention.

[0041] The specific fabrics used in apparel construction are of significant importance to the present invention. Exemplary wicking (i.e., hydrophobic) fabrics include, but are not limited to 100% polyester, polyester/spandex, polyester/LYCRA® and polyester/elastane compositions that maintain a percentage ratio between 80% polyester/20% spandex, LYCRA® and elastane and 99% polyester/1% spandex, LYCRA® and elastane, 100% nylon, nylon/spandex, nylon/LYCRA® and nylon/elastane compositions that maintain a percentage ratio between 80% nylon/20% spandex, LYCRA® and elastane and 99% nylon/1% spandex, LYCRA® and elastane.

[0042] Exemplary absorbing (i.e., hydrophilic) fabrics include, but are not limited to 100% cotton, 100% looped terry cotton, 100% velour, 100% modal cotton, 100% bamboo, cotton/polyester compositions that maintain a percentage ratio between 80% cotton/20% polyester and 99% cotton/1% polyester, cotton/nylon compositions that maintain a percentage ratio between 80% cotton/20% nylon and 99% cotton/1% nylon, polyester/polyamide compositions that maintain a percentage ratio between 80% polyester/20% polyamide and 99% polyester/1% polyamide, and nylon/